

Amendment to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

- 1.-33. (Canceled)
34. (Currently amended) A composite, comprising:
a plurality of bone particles and a biocompatible polymer, wherein at least a portion of the bone particles are covalently linked to the polymer through a silane coupling agent, wherein the bone particles represent about 60% to about 75% of the total weight of the composite.
35. (Currently amended) The composite of claim 34, 85, or 87, wherein the bone particles are obtained from one or more of autologous bone, allogenic bone, xenogenic bone, [[and]] or mixtures thereof.
36. (Currently amended) The composite of claim 34, 85, or 87, wherein the bone particles are obtained from one or more of cortical bone, cancellous bone, cortico-cancellous bone, or [[and]] or mixtures thereof.
37. (Currently amended) The composite of claim 34, 85, or 87, wherein the bone particles are obtained from one or more of nondemineralized bone, deorganized bone, anorganic bone, [[and]] or mixtures thereof.
38. (Currently amended) The composite of claim [[34]] 85 or 87, wherein the bone particles represent about 60% to about 75% of the total weight of the composite.
39. (Currently amended) The composite of claim 34, 85, or 87, wherein the coupling agent

is a silane selected from the group consisting of silanes bearing one hydrolyzable or leaving group, silanes bearing two hydrolyzable or leaving groups, and silanes bearing three hydrolyzable or leaving groups.

40. (Currently amended) The composite of claim 34, 85, or 87, wherein the polymer is a biocompatible polymer selected from the group consisting of polymers of natural origin, polymers of artificial origin, and any combination of natural and artificial polymers.

41. (Currently amended) The composite of claim 34, 85, or 87, wherein the polymer is a selected from the group consisting of biodegradable polymers, non-biodegradable polymers, co-polymers of biodegradable polymers, co-polymers of non-biodegradable polymers, and co-polymers of biodegradable and non-biodegradable polymers.

42. (Currently amended) The composite of claim 34 or 87, wherein the polymer is a natural polymer selected from the group consisting of polysaccharides.

43. (Currently amended) The composite of claim 42, when wherein the polymer is selected from the group consisting of starch, dextran, cellulose, ~~derivatives thereof~~, gelatin, and collagen, and derivatives thereof.

44. (Currently amended) The composite of claim 34 or 87, wherein the polymer is an artificial polymer selected from the group consisting of poly(anhydrides), poly(hydroxy acids), polyesters, poly(orthoesters), polycarbonates, ~~poly(propylene fumerates)~~ poly(propylene fumerates), poly(caprolactones), polyamides, polyamino acids, polyacetals, polylactides, polyglycolides, poly(dioxanones), polysulfones, polyhydroxybutyrates, polyhydroxyvalyrate, poly(vinyl pyrrolidone), biodegradable polycyanoacrylates, biodegradable polyurethanes, polysaccharides, tyrosine-based polymers, poly(methyl vinyl ether), poly(maleic anhydride), poly(glyconates), polyphosphazines, poly(esteramides), polyketals, poly(orthocarbonates), poly(maleic acid), poly(alkylene oxalates), poly(alkylene succinates), poly(pyrrole),

poly(aniline), poly(thiophene), polystyrene, non-biodegradable polyurethanes, polyureas, poly(ethylene vinyl acetate), polypropylene, polymethacrylate, polyethylene, poly(ethylene oxide), and co-polymers, adducts, and mixtures thereof.

45. (Canceled)

46. (Canceled)

47. (Canceled)

48. (Currently amended) The composite of claim 34, 85, or 87, wherein a surface of at least a portion of the bone particles has been chemically modified.

49. (Original) The composite of claim 48, wherein the surface of at least a portion of the bone particles is treated with dilute phosphoric acid.

50. (Currently amended) The composite of claim 34, 85, or 87, wherein the composition of the bone particle has been modified.

51. (Currently amended) The method of claim 50, wherein at least a portion of the bone particles are dried, lyophilized, defatted, ~~treatment treated~~ with a detergent, ~~treatment treated~~ with a solvent, ~~treatment treated~~ with a surfactant, or treated to remove or inactivate pathogens.

52. (Currently amended) The composite of claim 34 or 85, further comprising a cross-linking agent.

53. (Currently amended) The composite of claim 52, wherein the cross-linking agent is selected from the group consisting of aldehydes, polyepoxy compounds, polyvalent metallic oxides, organic tannins, N-hydroxysuccinimides, N-hydroxysulfosuccinimides, phenolic oxides,

hydrazides, carbodiimides, isocyanates, isothiocyanates, sugars, and enzymes.

54. (Cancelled)

55. (Cancelled)

56. (Currently amended) The composite of claim 34, 85, or 87, further comprising one or more of a wetting agent, biocompatible binder, filler, fiber, plasticizer, biostatic/biocidal agent, surface active agent, biomolecule, small molecule, or bioactive agent.

57. (Currently amended) The composite of claim 56, wherein the biologically-active bioactive agent is selected from the group consisting of antibiotics, chemotherapeutics, bone cell inducers, and bone cell stimulators.

58. (Currently amended) The composite of claim 34, 85, or 87, further comprising osteoblasts.

59.-84. (Cancelled)

85. (New) A composite comprising:
a plurality of bone particles; and
a biocompatible polymer; wherein at least a portion of the bone particles are covalently linked to the polymer through a silane coupling agent; and wherein the polymer is selected from the group consisting of polysaccharides.

86. (New) The composite of claim 85, wherein the polymer is selected from the group consisting of starch, dextran, cellulose, gelatin, collagen, and derivatives thereof.

87. (New) A composite comprising:

a plurality of bone particles;

a biocompatible polymer; and

a cross-linking agent; wherein at least a portion of the bone particles are covalently linked to the polymer through a silane coupling agent; and wherein the cross-linking agent is selected from the group consisting of aldehydes, polyepoxy compounds, polyvalent metallic oxides, organic tannins, N-hydroxysuccinimides, N-hydroxysulfosuccinimides, phenolic oxides, hydrazides, carbodiimides, isocyanates, isothiocyanates, sugars, and enzymes.

88. (New) The composite of claim 56, wherein the bioactive agent is selected from the group consisting of bone morphogenic proteins (BMPs), transforming growth factor-beta (TGF- β), insulin-like growth factors, platelet-derived growth factor (PDGF), vascular endothelial growth factor (VEGF), epidermal growth factor (EGF), parathyroid hormone (PTH), growth factor binding proteins, and angiogenic factors.